

**CARROLL HIGH SCHOOL
LESSON PLANS**

Teacher: Mrs. M. Williams

Subject: Algebra	Monday	Tuesday	Wednesday	Thursday	Friday
ACCRS:	<p>22.) Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).</p> <p>25.) Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.</p>	<p>28.) [F-IF4] For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.* [F-IF4] (Linear, exponential and quadratic)</p> <p>30.)[F-IF6] Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.* (Linear, exponential and quadratic)</p> <p>46. [S-ID7] Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the</p>	<p>CCRS: 13. [A-CED2] Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</p>	<p>F-IF.6: Calculate and interpret the average rate of change of a function (presented Symbolically or as a table) Over a specified interval. Estimate the rate of change from a graph</p>	<p>F-IF.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.</p> <p>F-IF.6: Calculate and interpret the average rate of change of a function (presented Symbolically or as a table) Over a specified interval. Estimate the rate of change from a graph</p> <p>A-CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</p>
Before:	<p>Warm up test review from homework.</p>	<p>Questions before the midunit test</p>	<p>Spiral review one step equations and graphing a line given the domain (make a table)</p>	<p>Warm up average rate of change review.</p>	<p>Warm up spiral review with</p>
During:	<p>Students will review using KAHOOT. They will be given examples on the board and they will be able to answer the question using their computers</p>	<p>Mid unit test.</p>	<p>The students will determine the average rate of change.</p>	<p>Students will divide a sheet of paper into 3 columns, with the titles "Coordinates," "Difference Quotient/Answer," and "Sentence." They follow these steps for each question. Step 1: Record the coordinates in column 1 and verify the coordinates with the teacher. Step 2: Show the difference</p>	<p>I will divide students into groups of two or three. Complete the first row in the table with the entire class, demonstrating the process to determine Mrs. Smith's weight for each week. Have students predict what will happen to her weight as the weeks increase if she is able to lose 0.5 kg per week.</p>

				quotient and simplify the answer in column 2. Step 3: Write a sentence interpreting slope as an average rate of change in column 3.	
After:	Students will complete the KAHOOT activity at their desk.	Mid unit test	Students will complete the sheet with in class with me and then with a partner.	Students will complete the classwork with me and with a partner	Students will complete the classwork with their group
Desired Outcome:	Students will successfully complete the KAHOOT activity on Unit 2 Mid unit	Students will complete the mid-unit test successfully with a passing grade.	Students will calculate average rates of change over specified intervals and compare different rates. The students use distance-time graphs and population tables to analyze characteristics such as when a person is traveling at the fastest speed and when a population is increasing or decreasing.	Students will <ul style="list-style-type: none"> ● interpret data from real-world scenarios as coordinate pairs. ● use the difference quotient to determine the average rate of change (slope). ● write a sentence interpreting the average rate of change in the context of the situation 	Students will <ul style="list-style-type: none"> ● Translate a real-world scenario into a table. ● Graph data points. ● Calculate the slope of a line. ● Define slope of a line as constant rate of change.
Formative/Summative	Warm up/ kahoot activity	Mid unit test	Warm up	Students engage in independent practice.	Students engage in independent practice. <ul style="list-style-type: none"> ● Students apply knowledge to a new situation. ● Students summarize a process or procedure.
Homework:	Complete study guide in google classroom (answers will be provided)	none	none	Finish classwork sheet	none
Higher Order Questions:	How can you determine whether a graph represents a function?	How can you determine whether a table of values represents a function?	What do you notice about the average rate of change of each population? Explain what the average rate of change tells you about each population	What is the difference between positive and negative slopes and what those slopes could mean in the context of a particular scenario?	Is there information provided for mid-week values? Can Mrs. Smith's weight fluctuate during the week as long as her cumulative weight loss for the week is 0.5 kg? How do these answers affect the domain of the data?